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Agricultural Memoradum No. 327

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Milk Production 1969-1970

The preference of any area for livestock husbandry in respect of cattle can be represented by the ratio of the total number of cattle and calves and the total area of crops and grassland excluding rough grazing. This assumes that the great majority of cattle are kept on 'farmland', and has perforce to ignore the proportion of sheep thereon.

To differentiate between the beef and dairy production, it is feasible to use an adjusted farmland acreage by multiplying by the ratio of dairy cows and calves to the total cattle population. All figures are taken from the (1967) June returns. These are not strictly applicable to the 1969-1970 milk production figures, but the errors cannot be large.

Arranging the counties in the Grades shown in Table 3 of "Meteorology and the Pattern of British Grassland Farming" (Agr. Meteorol. 4. 321-328) and using units of Effective Transpiration in inches and Milk per adjusted area of farmland in millions of gallons per thousands of acres, we find

Grade	1	2	3	4	5	6	7	8	9
Eff. Trans (E)	16.20	15.80	15.45	15.05	14.80	14.40	13.90	13.60	13.10
Milk/area	0.51	0.50	0.45	0.41	0.34	0.31	0.19	0.16	0.13

The milk/area ratio is an indication of two factors, the preference for milk and the ability to produce it. This latter factor could be resolved by finding the annual gallonage per cow, but 1969-70 milk herd figures by counties are not readily available. There are however indications that areas with low yields per cow are areas of low milk preference.

The correlation between these two sets of figures is very high (0.99). Assuming a linear relationship between weather for grass growth and milk, the counties within the grades can be examined as follows (the ratio within the brackets is the linear estimate obtained from the formula 0.139 E-1.71).

Grade 1	Above	Average	Below
	Flint 0.55 (0.51)	Lancashire 0.54 (0.56)	Cornwall 0.50 (0.55)
		Cheshire 0.56 (0.53)	Monmouth 0.45 (0.54)
			Anglesey 0.45 (0.52)
			Glamorgan 0.40 (0.52)
			Caernarvon 0.43 (0.51)
			Carmarthen 0.46 (0.51)

/Grade 2

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	Above	Average	Below
Grade 2	Westmoreland 0.64 (0.50) Pembroke 0.53 (0.49) Cumberland 0.67 (0.49)	Devon 0.49 (0.51) Montgomery 0.47 (0.49) Shropshire 0.44 (0.47) Somerset 0.50 (0.47)	Merioneth 0.27 (0.51) Denbigh 0.44 (0.49) Brecon 0.31 (0.49) Radnor 0.25 (0.47)
Grade 3	Stafford 0.54 (0.45) Dorset 0.46 (0.42)		Gloucester 0.37 (0.44) Cardigan 0.40 (0.44)
Grade 4	Derby 0.54 (0.40)	Hereford 0.41 (0.40) Wiltshire 0.36 (0.38) North Riding 0.38 (0.37)	
Grade 5		West Riding 0.38 (0.36) Northumberland 0.35 (0.34) Worcester 0.34 (0.33)	Durham 0.31 (0.35) Hampshire 0.29 (0.33)
Grade 6	Sussex 0.36 (0.31) Leicester 0.37 (0.29) Surrey 0.37 (0.26)	Warwick 0.30 (0.30) Buckingham 0.31 (0.28) Oxford 0.27 (0.28) Berkshire 0.26 (0.26)	East Riding 0.20 (0.31)
Grade 7	Northampton 0.26 (0.22) Nottingham 0.25 (0.21)		Hertford 0.19 (0.26) Rutland 0.20 (0.24) Kent 0.18 (0.22) Norfolk 0.15 (0.22) Kesteven 0.13 (0.21)
Grade 8	Isle of Wight 0.35 (0.19)	Suffolk 0.14 (0.17)	Lindsey 0.16 (0.20) Bedford 0.15 (0.19) Holland 0.07 (0.18)
Grade 9	Essex 0.16 (0.10)	Huntingdon 0.10 (0.12)	Cambridge Isle of Ely 0.07 (0.14)

It would be easy to postulate factors other than weather which would affect these figures, but the effective transpiration has clearly a major influence.

Any comments or suggestions on this paper should be referred to the Author.

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May 1970

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